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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,397	09/13/2005	Tord Haulin	15436.861.25a.1	3095
22913	7590	01/29/2010		
Workman Nydegger 1000 Eagle Gate Tower 60 East South Temple Salt Lake City, UT 84111			EXAMINER SNYDER, STEVEN G	
			ART UNIT 2184	PAPER NUMBER
			MAIL DATE 01/29/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/507,397

**Applicant(s)**

HAULIN ET AL.

**Examiner**

STEVEN G. SNYDER

**Art Unit**

2184

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-10 and 12-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10 and 12-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This is in response to the request for continued examination filed on January 14, 2010.

#### ***Status of Claims***

Claims 1, 2, 4 – 10, and 12 – 29 are pending, of which claims 1, 15, and 28 are in independent form.

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 14, 2010 has been entered.

#### ***Claim Objections***

2. **Claim 2** is objected to because of the following informalities: Claim 2 as amended now states "adapted to allow at least one of updating of data in the first digital storage unit and read out of data." With this newly added limitation, the two verbs ('updating' and 'read') are not in agreement. The examiner suggests changing this claim to read "adapted to allow at least one of updating of data in the first digital storage unit and reading out of data." Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1 – 2, 15 – 16, 22, 23, 25, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender, U.S. Patent Application 2002/0041568 (hereinafter referred to as Bender) in view of Rajaram et al., U.S. Patent Application 2003/0033599 (hereinafter referred to as Rajaram).**

Referring to claim 1, Bender discloses "A communication module" (Fig. 6A, access point 220A) "adapted to be removably connected to a node in a communications network" (Fig. 6A, access point 220A connected to Ethernet network 280C) "and adapted to perform a primary function" ([0042], access points and routers create various connections), the communication module comprising: "a network interface" (Fig. 6A, Ethernet network 280C), "wherein the communication module performs the primary function over the network via the network interface" ([0042], access points and routers create various connections using the Ethernet network), "the primary function including receipt of incoming network traffic via the network interface and performance of switching and/or routing operations on the received network traffic" ([0042], access points using routers for routing packets from one interface to one or more interfaces).

Bender discloses routers updating their routing tables ([0042]). While Bender does not appear to explicitly disclose “a first digital storage unit adapted to hold content pertaining to accomplishment of the primary function,” it is understood by one of ordinary skill in the art that some sort of memory is utilized to hold said routing tables. Therefore, Bender’s routers inherently contain a storage unit.

Bender’s description of the routers updating their routing tables ([0042]) meets the limitation of enabling “the content of the first digital storage unit to be modified to change the primary function of the communication module.”

Bender does not appear to explicitly disclose the communication module including “a secondary function” nor “a bi-directional interface, wherein the bi-directional interface comprises at least one optical interface and is adapted to provide a local wireless access to the first digital storage unit, the local wireless access being provided independently of the primary function, wherein the local wireless access enables the content of the first digital storage unit to be modified to change the primary function of the communication module.”

However, Rajaram discloses updating software in a device’s memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the

invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made practically and intelligently (as stated by Rajaram in [0013]).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

**As per claim 2**, Bender does not appear to explicitly disclose "the bi-directional interface is adapted to allow at least one of updating of data in the first digital storage unit and read out of data from the first digital storage unit."

However, Rajaram accessing system data before creating updated system data (Fig. 11, 1106a and 1106c).

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made practically and intelligently (as stated by Rajaram in [0013]).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

**Referring to claim 15**, Bender discloses “A method of communicating with a communication module” (Fig. 6A, access point 220A) “being removably connected to a node in a communications network” (Fig. 6A, access point 220A connected to Ethernet network 280C) “the module being adapted to perform a primary function” ([0042], access points and routers create various connections).

Bender also discloses “wherein the primary function includes receiving incoming network traffic via the network interface and performing switching and/or routing operations on the received network traffic” ([0042], access points and routers create various connections using the Ethernet network and access points using routers for routing packets from one interface to one or more interfaces).

Bender's description of the routers updating their routing tables ([0042]) meets the limitation of "data including information pertaining to accomplishment of the primary function."

Bender does not appear to explicitly disclose the communication module being adapted to perform "a secondary function" nor "receiving an authorization signal in the module from a portable software carrier unit while performing the primary function over the network via a network interface of the communication module; and exchanging data between the module and the portable software carrier unit via a bi-directional optical interface, the data including information pertaining to accomplishment of the primary function and being exchanged independently of the primary function."

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]). Rajaram also discloses flowing from execution of system data to the replacing of system data (Fig. 11).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.



At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made practically and intelligently (as stated by Rajaram in [0013]).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

**As per claim 16**, neither Bender nor Rajaram appears to explicitly disclose “the authorization signal includes an address field which designates a specific module position within the node.”

However, since Bender discloses multiple routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the use of an address field to designate a specific module in the authentication method. This would provide a further means for authentication.

**As per claim 22**, Bender’s description of the routers updating their routing tables ([0042]) meets the limitation of enabling “updating of the contents of a first digital storage unit in the module.”

Bender does not appear to explicitly disclose "updating of the contents of a first digital storage unit in the module *via the bi-directional optical interface.*"

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made practically and intelligently (as stated by Rajaram in [0013]).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

**As per claim 23**, Bender's description of the routers updating their routing tables ([0042]) meets the limitation of enabling "altering at least one parameter in the first digital storage unit pertaining to the accomplishment of the primary function."

Bender does not appear to explicitly disclose "receiving at least one control command via the bi-directional interface" and altering the parameter "on the basis of the at least one control command."

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]). Rajaram further discloses a read-write driver symbol library causing overwriting of memory sections ([0038]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made practically and intelligently (as stated by Rajaram in [0013]).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

**As per claim 25**, Bender does not appear to explicitly disclose "reading out data from a first digital storage unit in the module via the bi-directional optical interface."

However, Rajaram discloses an infrared update method utilizing a read-write driver and read-write data ([0038]).

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made practically and intelligently (as stated by Rajaram in [0013]).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

**As per claim 27**, Bender discloses routers enabling connections between access points and services (Fig. 2). Bender also discloses routers updating their routing tables ([0042]). Therefore, it can be seen that a first primary function of a router may be to route connections of an access point to a DHCP server 276 (Fig. 2). Further, through updating of a routing table, it can be seen that a second primary function of a router may be to route connections of an access point to a Network Access Server NAS 271 (Fig. 2). Therefore the updating of a routing table can "change the first primary function to a second primary function."

Bender does not appear to explicitly disclose updating the contents of the first digital storage unit "via the bi-directional optical interface."

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made practically and intelligently (as stated by Rajaram in [0013]).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

**Referring to claim 28**, Bender discloses “A communication module” (Fig. 6A, access point 220A) “adapted to be removably connected to a node in a communications network” (Fig. 6A, access point 220A connected to Ethernet network 280C) “and adapted to perform a primary function” ([0042], access points and routers create various connections), the communication module comprising: “a network interface” (Fig. 6A, Ethernet network 280C), “wherein the communication module performs the primary function over the network via the network interface” ([0042], access points and routers create various connections using the Ethernet network).

Bender discloses routers updating their routing tables ([0042]). While Bender does not appear to explicitly disclose “a first digital storage unit adapted to hold content pertaining to accomplishment of the primary function,” it is understood by one of ordinary skill in the art that some sort of memory is utilized to hold said routing tables. Therefore, Bender’s routers inherently contain a storage unit.

Bender’s description of the routers updating their routing tables ([0042]) meets the limitation of enabling “the content of the first digital storage unit to be modified to change the primary function of the communication module.”

Bender does not appear to explicitly disclose the communication module including “a secondary function” nor “a bi-directional interface, wherein the bi-directional interface comprises at least one optical interface and is adapted to provide a local wireless access to the first digital storage unit, the local wireless access being provided independently of the primary function, wherein the local wireless access enables the content of the first digital storage unit to be modified to change software and/or firmware used to accomplish the primary function of the communication module.”

However, Rajaram discloses updating software in a device’s memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the

invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Bender and Rajaram are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender and Rajaram before him or her, to modify the teachings of Bender to include the teachings of Rajaram so that the routing tables of Bender would be updateable through an infrared connection.

The motivation for doing so would have been to provide a router with the latest topology of connected devices (as shown by Bender) via a commonly used mobile communication method (infrared, as taught by Rajaram) so that updates can be made practically and intelligently (as stated by Rajaram in [0013]).

Therefore, it would have been obvious to combine Rajaram with Bender to obtain the invention as specified in the instant claim.

**Claims 4 – 7, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Rajaram, as applied to claims 1 – 2, 15 – 16, 22, 23, 25, 27, and 28 above, and further in view of Picazo, Jr. et al., U.S. Patent 6,006,275 (hereinafter referred to as Picazo).**

**As per claim 4**, as stated above, Bender does not appear to explicitly disclose a bi-directional optical interface.



However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Further, neither Bender nor Rajaram appears to explicitly disclose "the first digital storage unit comprises a first register including status data with respect to the primary function, and the bi-directional interface is adapted to: receive a request for status information; and transmit a status report on basis of the request, the status report including data from the first register which pertains to at least one parameter of the primary function."

However, Picazo discloses routers including status registers as well as routers supplying status information upon request from network management processes (column 2 line 54 – column 3 line 5).

Bender, Rajaram, and Picazo are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Picazo before him or her, to

modify the teachings of Bender and Rajaram to include the teachings of Picazo so that the status of the router would be available through an infrared connection.

The motivation for doing so would have been to provide a means for learning a router's status, therefore providing information pertaining to when to start an update of routing information.

Therefore, it would have been obvious to combine Picazo with Bender and Rajaram to obtain the invention as specified in the instant claim.

**As per claim 5**, as stated above, while Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface, such as the interface of Rajaram, on the routers since the network of Bender is a mobile one.

Rajaram further discloses a read-write driver symbol library causing overwriting of memory sections ([0038]).

This is considered equivalent to applicant's "the bi-directional interface is adapted to receive at least one control command."

Further, neither Bender nor Rajaram appears to explicitly disclose "the first digital storage unit comprises a second and volatile register adapted to store information pertaining to the accomplishment of the primary function."

However, Picazo discloses routers including status registers as well as routers supplying status information upon request from network management processes (column 2 line 54 – column 3 line 5).

Bender, Rajaram, and Picazo are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Picazo before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Picazo so that the status of the router would be available through an infrared connection.

The motivation for doing so would have been to provide a means for learning a router's status, therefore providing information pertaining to when to start an update of routing information.

Also, neither Bender nor Rajaram appears to explicitly disclose "the bi-directional interface is adapted to alter at least one parameter in the second register pertaining to the accomplishment of the primary function on basis of the at least one control command."

However, in view of the teachings of Bender, Rajaram, and Picazo, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a router's status information in order to determine a desirable moment to start updating routing information.

The motivation for this can be seen in Rajaram [0038], where it is stated that the device may be unable to perform standard functionality while sending update data.

Therefore, it would have been obvious to combine Picazo with Bender and Rajaram to obtain the invention as specified in the instant claim.

**As per claim 6**, Rajaram discloses "the communication module comprises a second digital storage unit adapted to temporarily store information pertaining to the accomplishment of the primary function" (Fig. 1, volatile memory and a non-volatile memory both holding information pertaining to functionality).

The remaining limitations of this claim are equivalent to the limitations of claim 5, with the exception of "a third register." Therefore, the rejection of claim 5 applies to claim 6 as well. Further, it would have been obvious to one of ordinary skill at the time of the invention to duplicate the status registers disclosed by Picazo in order to accommodate any amount of status data pertaining to the functionality of the device.

**As per claim 7**, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]). Further, Rajaram discloses "resetting the communication module" ([0038]). This is considered to be equivalent to applicant's "the communication module is adapted to, after reset of the module, alter the contents of the third register on basis of the at least one piece of information in the second digital storage unit."

**As per claim 24**, as stated above, Bender does not appear to explicitly disclose a bi-directional optical interface.

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

Further, Rajaram discloses "resetting the communication module" ([0038]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Further, neither Bender nor Rajaram appears to explicitly disclose "receiving at least one piece of information pertaining to the accomplishment of the primary function via the bi-directional optical interface."

However, Picazo discloses routers including status registers as well as routers supplying status information upon request from network management processes (column 2 line 54 – column 3 line 5).

Bender, Rajaram, and Picazo are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Picazo before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Picazo so that the status of the router would be available through an infrared connection.

The motivation for doing so would have been to provide a means for learning a router's status, therefore providing information pertaining to when to start an update of routing information.

Neither Bender nor Rajaram nor Picazo appears to explicitly disclose "storing temporarily the at least one piece of information in a second digital storage unit in the communication module" nor "altering the contents of the first digital storage on basis of the at least one piece of information."

However, the utilization of buffers for received data is well known to one of ordinary skill in the art at the time of the invention. This meets the limitation of "storing temporarily the at least one piece of information in a second digital storage unit in the communication module."

Further, in view of the teachings of Bender, Rajaram, and Picazo, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a router's status information in order to determine a desirable moment to start updating routing information.

The motivation for this can be seen in Rajaram [0038], where it is stated that the device may be unable to perform standard functionality while sending update data.

Therefore, it would have been obvious to combine Picazo with Bender and Rajaram to obtain the invention as specified in the instant claim.

**As per claim 26**, as stated above, Bender does not appear to explicitly disclose a bi-directional optical interface.

However, Rajaram discloses updating software in a device's memory via wireless or wired connections (Fig. 1 and [0076]). Rajaram further discloses how the data can be received via an infrared interface and the received or updated code is stored in the device ([0068] and [0076]).

While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a wireless interface on the routers since the network of Bender is a mobile one.

Further, neither Bender nor Rajaram appears to explicitly disclose "receiving a request for status information via the bi-directional optical interface; and transmitting a status report on basis of the request, the status report including data pertaining to at least one parameter of the primary function."

However, Picazo discloses routers including status registers as well as routers supplying status information upon request from network management processes (column 2 line 54 – column 3 line 5).

Bender, Rajaram, and Picazo are analogous art because they are from the same field of endeavor, which is easily updateable communication systems.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Picazo before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Picazo so that the status of the router would be available through an infrared connection.

The motivation for doing so would have been to provide a means for learning a router's status, therefore providing information pertaining to when to start an update of routing information.

Therefore, it would have been obvious to combine Picazo with Bender and Rajaram to obtain the invention as specified in the instant claim.

**5. Claims 8 – 10, 17 – 20, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Rajaram, as applied to claims 1 – 2, 15 – 16, 22, 23, 25, 27, and 28 above, and further in view of Rose et al., U.S. Patent Application 2003/0120925 (hereinafter referred to as Rose).**

**As per claim 8**, neither Bender nor Rajaram appears to explicitly disclose "the communication module comprises an access module adapted to allow access to the first digital storage unit via the bi-directional interface, the access module being controllable via an authorization unit such that the access module blocks access to the first digital storage unit via the bi-directional interface at least until an authorization signal has been generated by the authorization unit with respect to the module."

However, Rose discloses a simple method for wireless authentication of a user or device ([0009] and Figs. 4 and 5). Further, Rose also discloses utilizing the authentication method in an infrared communication ([0052] – [0053]).

Bender, Rajaram, and Rose are analogous art because they are from the same field of endeavor, which is wireless communications.



At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Rose before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Rose so that the infrared connection would be allowed only after authentication.

The motivation for doing so would have been to provide a level of security with a simple method of authentication (as described by Rose in [0013]).

Therefore, it would have been obvious to combine Rose with Bender and Rajaram to obtain the invention as specified in the instant claim.

**As per claim 9**, neither Bender nor Rajaram appears to explicitly disclose "the access module comprises an authorization sub-unit adapted to receive a pass phrase from a portable software carrier unit via the bidirectional interface, the access module blocking access to the first digital storage unit via the bi-directional interface at least until an acceptable pass phrase has been received."

However, Rose discloses verifying a signature before allowing access (Fig. 5).

Bender, Rajaram, and Rose are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Rose before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Rose so that the infrared connection would be allowed only after authentication.

The motivation for doing so would have been to provide a level of security with a simple method of authentication (as described by Rose in [0013]).

Therefore, it would have been obvious to combine Rose with Bender and Rajaram to obtain the invention as specified in the instant claim.

**As per claim 10**, neither Bender nor Rajaram appears to explicitly disclose “the authorization signal includes at least one of a unique identifier of the module and an address field which designates a specific module position within the node.”

However, Rose discloses an emitter operable to emit the secure identifier ([0014]).

Bender, Rajaram, and Rose are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Rose before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Rose so that the infrared connection would be allowed only after authentication.

The motivation for doing so would have been to provide a level of security with a simple method of authentication (as described by Rose in [0013]).

Therefore, it would have been obvious to combine Rose with Bender and Rajaram to obtain the invention as specified in the instant claim.

**As per claim 17**, neither Bender nor Rajaram appears to explicitly disclose “the authorization signal includes a unique identifier of the module.”

However, Rose discloses an emitter operable to emit the secure identifier ([0014]).

Bender, Rajaram, and Rose are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Rose before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Rose so that the infrared connection would be allowed only after authentication.

The motivation for doing so would have been to provide a level of security with a simple method of authentication (as described by Rose in [0013]).

Therefore, it would have been obvious to combine Rose with Bender and Rajaram to obtain the invention as specified in the instant claim.

**As per claim 18**, neither Bender nor Rajaram appears to explicitly disclose “receiving a pass phrase in the communication module, the pass phrase being received via the bi-directional optical interface.”

However, Rose discloses a method for authentication using a password ([0009] and [0056]).

Bender, Rajaram, and Rose are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Rose before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Rose so that the infrared connection would be allowed only after authentication.

The motivation for doing so would have been to provide a level of security with a simple method of authentication (as described by Rose in [0013]).

Therefore, it would have been obvious to combine Rose with Bender and Rajaram to obtain the invention as specified in the instant claim.

**As per claim 19**, neither Bender nor Rajaram appears to explicitly disclose “the pass phrase includes a static segment.”

However, Rose discloses utilizing a stored key identifier ([0014]).

Bender, Rajaram, and Rose are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Rose before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Rose so that the infrared connection would be allowed only after authentication.

The motivation for doing so would have been to provide a level of security with a simple method of authentication (as described by Rose in [0013]).

Therefore, it would have been obvious to combine Rose with Bender and Rajaram to obtain the invention as specified in the instant claim.

**As per claim 20**, neither Bender nor Rajaram appears to explicitly disclose "the pass phrase includes a dynamic segment, the method comprising calculating the dynamic segment in the portable software carrier unit and a central resource respectively."

However, Rose discloses a random number generator 216 used in the authentication process (Fig. 2).

Bender, Rajaram, and Rose are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, and Rose before him or her, to modify the teachings of Bender and Rajaram to include the teachings of Rose so that the infrared connection would be allowed only after authentication of a pass phrase that includes a dynamic segment.

The motivation for doing so would have been to provide a further level of security with a simple method of authentication (as described by Rose in [0013]).

Therefore, it would have been obvious to combine Rose with Bender and Rajaram to obtain the invention as specified in the instant claim.

**As per new claim 29**, this claim depends from claim 8 and further states "the authorization unit is external to the communication module but included within or connected to the node to which the communication module is removably connected."

As learned from *In Re Japikse* 86 USPQ 70 (CCPA 1950), shifting the location of parts provides no inventive concept if the operation of the system is not modified. Therefore, an authorization unit being moved external to the communication module provides no inventive concept since the authorization unit and communication module (specifically the access module) would continue to communicate in order to allow or block access. As such, the rejection to claim 8 applies to this claim as well. The moving or shifting of the authorization unit would have been obvious to one of ordinary skill in the art.

**6. Claims 12 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Rajaram, further in view of Rose, as applied to claims 8 – 10, 17 – 20, and 29 above, and further in view of Benjamin et al., U.S. Patent 5,668,654 (hereinafter referred to as Benjamin).**

As per claim 12, neither Bender nor Rajaram nor Rose appears to explicitly disclose "the communication module comprises an identification unit adapted to indicate an active data transmission state upon reception of an authorization signal which designates the communication module."

However, Benjamin discloses an infrared communications adapter including light emitting diodes to indicate the status of the connection (Fig. 1).

Bender, Rajaram, Rose, and Benjamin are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, Rose, and Benjamin before him or her, to modify the teachings of Bender, Rajaram, and Rose to include the teachings of Benjamin so that the infrared connection status would be indicated via LEDs.

The motivation for doing so would have been to provide means for indicating status to a user.

Therefore, it would have been obvious to combine Benjamin with Bender, Rajaram, and Rose to obtain the invention as specified in the instant claim.

**As per claims 13 and 14**, neither Bender nor Rajaram nor Rose appears to explicitly disclose "the identification unit comprises a first optical indicator indicative of the bi-directional interface being open for access to the first digital storage unit" nor "the identification unit comprises a second optical indicator indicative of data being transmitted over the bi-directional interface."

However, Benjamin discloses an infrared communications adapter including light emitting diodes to indicate the status of the connection (Fig. 1).

Bender, Rajaram, Rose, and Benjamin are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, Rose, and Benjamin before him or her, to modify the teachings of Bender, Rajaram, and Rose to include the teachings of Benjamin so that the infrared connection status would be indicated via LEDs.

The motivation for doing so would have been to provide means for indicating status to a user.

Therefore, it would have been obvious to combine Benjamin with Bender, Rajaram, and Rose to obtain the invention as specified in the instant claim.

**7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Rajaram, further in view of Rose, as applied to claims 8 – 10 and 17 – 20 above, and further in view of Fernandes et al., U.S. Patent Application 2003/0218066 (hereinafter referred to as Fernandes).**

**As per claim 21**, neither Bender nor Rajaram nor Rose appears to explicitly disclose “the pass phrase includes a cyclic redundancy checksum, the cyclic redundancy checksum being based on data which is to update the contents of a first digital storage in the module.”

However, Fernandes discloses utilizing a checksum to validate infrared authentication data (0090).

Bender, Rajaram, Rose, and Fernandes are analogous art because they are from the same field of endeavor, which is wireless communications.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Bender, Rajaram, Rose, and Fernandes before him or her, to modify the teachings of Bender, Rajaram, and Rose to include the teachings of Fernandes so that the infrared authentication data would include a checksum.



The motivation for doing so would have been to provide a means for validating that the pass phrase was received as it was sent.

Therefore, it would have been obvious to combine Fernandes with Bender, Rajaram, and Rose to obtain the invention as specified in the instant claim.

### ***Response to Arguments***

8. Applicant's arguments filed January 14, 2010 have been fully considered but they are not persuasive.

**Applicant argues**, on page 10 line 17 – page 11 line 2, that no benefit is attained nor any deficiency cured by using an infrared connection to perform routing table updates in place of the mechanisms taught by Bender. The previous office action stated that a motivation for the combination of Rajaram with Bender would have been “so that updates can be made practically and intelligently” as stated by Rajaram. Applicant argues that the practicality and intelligence of the upgrading described in Rajaram is unrelated to the use of an infrared connection.

The examiner disagrees. While Bender's access points and routers create various connections and can have their routing tables updated (Bender [0042]), Bender does not disclose the specifics of how the routing tables are updated. It is assumed that the existing connections to the network are utilized to update the routing tables. As previously stated in the office action, “While Bender does not appear to explicitly disclose a wireless interface on the routers, it would have been obvious to one of

ordinary skill in the art at the time of the invention to include a wireless interface on the routers since the network of Bender is a mobile one.” Therefore, it is the position of the examiner that there is a clear motivation for utilizing the wireless updating method described by Rajaram with the routing method described by Bender, so that a mobile network and mobile router can be accessed and updated without needing a direct wired connection between a computing device and the router. A directly accessible wireless interface (much like the walk-up printing idea) is an intelligent and practical way for a user to interact with the device without having to find a hardwired computer with a connection to the router. As many networks span multiple rooms or even multiple buildings, it may be advantageous to users of such distributed networks to be able to directly access a router via an infrared port, if the router is closer than the nearest hardwired computer, for example.

Further, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. In re Keller, 642 F. 2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In this regard, a conclusion of obviousness may be based on common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference. In re Bozek, 416 F. 2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

**Applicant argues**, on page 11 lines 3 – 10, that one of ordinary skill in the art would have no reason to look to Rajaram which deals with updating software in a wireless phone, to solve the problem of updating routing tables, as in Bender. Thus, impermissible hindsight was used by the examiner.

The examiner disagrees. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Therefore, as stated above, there is a motivation for combining a direct wireless software updating method with a wired router in a mobile network. This knowledge is not gleaned only from applicant's disclosure, as methods for directly and wirelessly communicating with a device (much like walk-up printing) are known to one of ordinary skill in the art at the time of the invention.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent **6,122,759** discloses a base station with many interfaces in a network including switching nodes.

U.S. Patents **6,934,248**, **7,426,179**, **6,130,881** and U.S. Patent Application **2002/0012318** disclose network elements with routing tables in an optical network.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEVEN G. SNYDER whose telephone number is (571)270-1971. The examiner can normally be reached on Mon. - Thurs. 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Henry Tsai can be reached on (571) 272-4176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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